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=> d stat que
L1         27251 SEA FILE=REGISTRY ABB=ON  PLU=ON  PEROXIDE OR PERIODATE OR
                 DIISOCYANATE OR HALOGEN OR BROMOSUCCINIMIDE OR PERMANGANATE OR
                 OZONE OR CHROMIC ACID?/CN OR SULFURYL CHLORIDE?/CN OR SULFOXIDE
                  OR SELENOXIDE
L2           583 SEA FILE=REGISTRY ABB=ON  PLU=ON  GLUTARALDEHYDE OR DENACOL
L7        786415 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 OR PEROXIDE OR PERIODATE
                 OR DIISOCYANATE OR HALOGEN OR BROMOSUCCINIMIDE OR PERMANGANATE
                 OR OZONE OR CHROMIC(W) ACID? OR SULFURYL(W)CHLORIDE? OR
                 SULFOXIDE OR SELENOXIDE
L8         23988 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 OR GLUTARALDEHYDE OR
                 DENACOL
L9          2683 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND L8
L10        24149 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7(L)OXIDIZ?
L11           77 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND L9
L12            6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND TISSUE


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=>

=> d ibib abs hitrn l12 1-6
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L12 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:772416 HCAPLUS
DOCUMENT NUMBER: 133:325693
TITLE: Stabilization of implantable bioprosthetic devices
INVENTOR(S): Levy, Robert J.; Vyavahare, Narendra
PATENT ASSIGNEE(S): The Children's Hospital of Philadelphia, USA
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000064371	A1	20001102	WO 2000-US11289	20000426

W: CA
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: US 1999-131257 P 19990427

AB The invention relates to methods of stabilizing glycosaminoglycans in a biol. **tissue** (e.g. a bioprosthetic implant) in conjunction with crosslinking of protein in the **tissue**. The methods of the invention improve the mech. integrity of the device and improves its stability in vivo . The invention also includes biol. **tissues** having stabilized glycosaminoglycans and crosslinked proteins and kits for prepg. such **tissues**. An example is given of crosslinking of type I collagen and radiolabeled hyaluronic acid.

IT **15056-35-6, Periodate**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**oxidizing** agent; stabilization of implantable bioprosthetic devices)

IT **111-30-8, Glutaraldehyde**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(stabilization of implantable bioprosthetic devices)

REFERENCE COUNT: 3
REFERENCE(S):
(1) Stone; US 4880429 A 1989
(2) Tardy; US 4931546 A 1990 HCAPLUS
(3) Trescony; US 5919472 A 1999

L12 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:183806 HCAPLUS
DOCUMENT NUMBER: 128:275021
TITLE: Chemical modification of titanium surfaces for covalent attachment of biological molecules
AUTHOR(S): Nanci, A.; Wuest, J. D.; Peru, L.; Brunet, P.; Sharma, V.; Zalzal, S.; McKee, M. D.
CORPORATE SOURCE: Faculty of Dentistry, Universite de Montreal, Montreal, PQ, H3C 3J7, Can.
SOURCE: J. Biomed. Mater. Res. (1998), 40(2), 324-335
CODEN: JBMRBG; ISSN: 0021-9304
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The surface of implantable biomaterials is in direct contact with the host **tissue** and plays a crit. role in detg. biocompatibility. In order

to improve the integration of implants, it is desirable to control interfacial reactions such that nonspecific adsorption of proteins is minimized and **tissue**-healing phenomena can be controlled. In this regard, our goal has been do develop a method to functionalize **oxidized** titanium surfaces by the covalent immobilization of bioactive org. mols. Titanium first was chem. treated with a mixt. of sulfuric acid and hydrogen **peroxide** to eliminate surface contaminants and to produce a consistent and reproducible titanium oxide surface layer. An intermediary aminoalkylsilane spacer mol. was then covalently linked to the oxide layer, followed by the covalent binding of either alk. phosphatase or albumin to the free terminal NH2 groups using **glutaraldehyde** as a coupling agent. Surface analyses following coating procedures consisted of XPS, SEM, and at. force microscopy (AFM). Enzymic activity of coupled alk. phosphatase was assayed colorimetrically, and surface coverage by bound albumin was evaluated by SEM visualization of colloidal gold immunolabeling. Our results indicate that the linkage of the aminoalkylsilane to the **oxidized** surface is stable and that bound proteins such alk. phosphatase and albumin retain their enzymic activity and antigenicity, resp. The d. of immunolabeling for albumin suggests that the binding and surface coverage obtained is in excess of what would be expected for inducing biol. activity. In conclusion, this method offers the possibility of covalently linking selected mols. with known biol. activity to **oxidized** titanium surfaces in order to guide and promote the **tissue** healing that occurs during implant integration in bone and soft **tissues.**

IT **13463-67-7D**, Titanium oxide, conjugates with aminoalkylsilane and alk. phosphatase
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(chem. modification of titanium surfaces for covalent attachment of biol. mols.)

IT **7722-84-1**, Hydrogen **peroxide**, reactions
RL: RCT (Reactant)
(chem. modification of titanium surfaces for covalent attachment of biol. mols.)

L12 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:384915 HCAPLUS
DOCUMENT NUMBER: 127:67604
TITLE: Tanning effect of dialdehydestarch and dialdehydedextrin
AUTHOR(S): Sugiyama, Rika; Chonan, Yasumasa; Okamura, Hiroshi
CORPORATE SOURCE: Japan
SOURCE: Hikaku Kagaku (Sci.) (1997), 43(1), 55-63
CODEN: HIKAEJ; ISSN: 0018-1811
PUBLISHER: Nippon Hikaku Gijutsu Kyokai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB The tanning effect of dialdehydestarch was compared with that of formaldehyde and **glutaraldehyde**, which are generally used as aldehyde tanning agents. The tanning effect of dialdehydedextrin, which is an oxide of dextrin (an intermediate product in the hydrolysis of starch) prepd. by metaperiodate, was also studied. The results were as follows: (1) Dextrin from potato starch was **oxidized** by metaperiodate. After an excess of the **periodate** was removed by the use of ethylene glycol, the product was dialyzed by distd. water, concd. under reduced pressure and freeze-dried, so that a dialdehydedextrin prepd. with an oxidn. rate (aldehyde content) of 87% was

produced. (2) Dialdehydedextrin was found to more quickly penetrate into hide **tissue** than dialdehydestarch and to have tanning ability.

IT **9047-50-1P**, Dialdehydestarch
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. and tanning effect of dialdehydestarch and dialdehydedextrin)

L12 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:68248 HCAPLUS
DOCUMENT NUMBER: 98:68248
TITLE: The cytochemical reactivity of cerium ions with cardiac muscle
AUTHOR(S): Christie, Keith N.; Stoward, Peter J.
CORPORATE SOURCE: Dep. Anat., Univ. Dundee, Dundee, UK
SOURCE: Acta Histochem. Cytochem. (1982), 15(5), 656-72
CODEN: ACHCBO
DOCUMENT TYPE: Journal
LANGUAGE: English

AB When unfixed cardiac muscle from the rat or hamster was incubated in substrate-free media contg. CeCl3 buffered to pH 7.5 with Tris-maleate-sucrose, electron-dense reaction bodies were formed in the sarcoplasm and, to a greater extent, inside and budding from mitochondria. Fixation in **glutaraldehyde** prevented the reaction product appearing within mitochondria, but had no effect on either the bodies assocd. with outer mitochondrial membranes or those apparently free in the sarcoplasm or outside the cells. No reaction product was obsd. in unfixed liver, kidney, or skeletal muscle. The electron-dense reaction product within cardiocytes was absent in fixed **tissues** treated beforehand with acetone and in fresh **tissues** preincubated with the D-amino acid oxidase inhibitor kojic acid. It was substantially reduced by preincubation in Tiron (a superoxide scavenger), diethyldithiocarbamic acid (an inhibitor of Cu-contg. enzymes such as diamine oxidase and superoxide dismutase), or EDTA, and totally if any of these compds. was included in the incubation medium. However, p-chloromercuribenzene-sulfonate, a nonpenetrating and nonspecific inhibitor of NAD(P)H oxidoreductases, and atebrine limited the amt. of reaction product formed in all sites by much less. Chlorpromazine inhibited the formation of reaction product in the sarcoplasm but gave rise to a coagulated product within mitochondria. With clorgyline, in contrast, no product was deposited in mitochondria and large amorphous masses of reaction product appeared in the sarcoplasm. None of the following, when included in the incubation medium, had any effect: 3-amino-1,2,4-triazole, catalase, dicoumarol, GSH peroxidase, mannitol, MeOH, Pargyline, o-phenanthroline, KCN, rotenone, NaN3, Na benzoate, Na pyruvate, superoxide dismutase, and thiourea. Evidently, the electron-dense product arises from a reaction of ions with either a lipid **peroxide** or endogenous H2O2 generated by a metal-contg. thiol enzyme, possibly an **oxidized** form of monoamine oxidase A with the properties of a diamine oxidase. The significance of the Ce reaction in the ageing of cells is discussed briefly.

L12 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1981:26897 HCAPLUS
DOCUMENT NUMBER: 94:26897
TITLE: Radioimmunoassay of methionine5-enkephalin **sulfoxide**: phylogenetic and anatomical distribution
AUTHOR(S): King, Judy A.; Millar, Robert P.
CORPORATE SOURCE: Med. Sch., Univ. Cape Town, Observatory, 7925, S. Afr.

SOURCE: Peptides (Fayetteville, N. Y.) (1980), 1(3), 211-16
CODEN: PPTDD5; ISSN: 0196-9781
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A sensitive and specific radioimmunoassay (RIA) for the **oxidized** form of methionine5-enkephalin (Met5-Enk), met5-Enk **sulfoxide** (Met5-Enk-S), was developed. Antiserums were raised in rabbits against Met5-Enk coupled to carrier proteins with **glutaraldehyde** or carbodiimide. Displacement of 125I-labeled Met5-Enk bound to antiserum by Met5-Enk was poor, but Met5-Enk-S displayed good displacement suggesting that the Met5-Enk immunogen was **oxidized** to Met5-Enk-S and that the antiserums were formed against this compd. The sensitivity of the RIA for Met5-Enk-S was 0.02 pmole/tube using the most sensitive antiserum. The antiserums showed negligible cross-reactivity with leucine5-enkephalin and with both native and **oxidized** endorphins. Cross-reactivity was 15-28% with the fragment Met5-Enk (2-5) **sulfoxide** and 9-25% with D-Ala2-Met5-Enk **sulfoxide**. The antiserums showed <0.01% cross-reactivity with other Met5-Enk fragments and naturally occurring neuropeptides. **Tissue** exts. were **oxidized** with H2O2 prior to assay. Met5-Enk-S immunoreactivity (IMR) was detected in brain, pituitary gland, pancreas, and intestine exts. of the rat, chicken, toad (Xenopus laevis) and teleost (Sarotherodon mossabicus), and in cerebral-subesophageal ganglion exts. of the snail (Helix). All **tissue** exts. showed parallelism in serial diln. to synthetic mammalian Met5-Enk-S, suggesting possible immunol. identity. Thus, spontaneous oxidn. of Met5-Enk immunogen occurs such that antiserums are produced against the **sulfoxide** analog of Met5-Enk, and may account for the relative insensitivity of some published RIAs using Met5-Enk std. These findings demonstrate a wide phylogenetic and anatomical distribution of Met5-Enk IMR.

IT **60283-51-4**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in animal **tissues** by radioimmunoassay, anatomical and phylogenetic distribution in)

L12 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1975:28168 HCAPLUS
DOCUMENT NUMBER: 82:28168
TITLE: **Periodate**-lysine-paraformaldehyde fixative. New fixative for immunoelectron microscopy
AUTHOR(S): McLean, Ian W.; Nakane, Paul K.
CORPORATE SOURCE: Med. Cent., Univ. Colorado, Denver, Colo., USA
SOURCE: J. Histochem. Cytochem. (1974), 22(12), 1077-83
CODEN: JHCYAS
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new fixative that primarily stabilizes carbohydrate moieties was developed for immunoelectron microscopy. It contained **periodate** , lysine, and paraformaldehyde. Theor., the carbohydrates are **oxidized** by **periodate** and cross-linked by lysine. The fixative can preserve antigenicity as well as paraformaldehyde and ultrastructure as well as **glutaraldehyde**. By using this fixative and the peroxidase-labeled antibody technique, basement membrane antigen was localized within the cisternae of endoplasmic reticulum of parietal yolk-sac cells and in extracellular basement membranes with adequate **tissue** preservation, a task that has not been successfully accomplished by conventional fixatives.

IT **7790-28-5**
RL: USES (Uses)

(in fixative, for carbohydrates stabilization)

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=> d stat que l20
L1        27251 SEA FILE=REGISTRY ABB=ON  PLU=ON  PEROXIDE OR PERIODATE OR
                DIISOCYANATE OR HALOGEN OR BROMOSUCCINIMIDE OR PERMANGANATE OR
                OZONE OR CHROMIC ACID?/CN OR SULFURYL CHLORIDE?/CN OR SULFOXIDE
                 OR SELENOXIDE
L2          583 SEA FILE=REGISTRY ABB=ON  PLU=ON  GLUTARALDEHYDE OR DENACOL
L7       786415 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 OR PEROXIDE OR PERIODATE
                OR DIISOCYANATE OR HALOGEN OR BROMOSUCCINIMIDE OR PERMANGANATE
                OR OZONE OR CHROMIC(W) ACID? OR SULFURYL(W)CHLORIDE? OR
                SULFOXIDE OR SELENOXIDE
L8        23988 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 OR GLUTARALDEHYDE OR
                DENACOL
L9         2683 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND L8
L10       24149 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7(L)OXIDIZ?
L11          77 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND L9
L12           6 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND TISSUE
L13         213 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L9 AND ?TISSUE?) NOT L12
L20          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND (HEAT OR ?RADIAT? OR
                UV OR ULTRAVIOL? OR GAMMA)


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L20  ANSWER 1 OF 23  HCAPLUS  COPYRIGHT 2001 ACS
ACCESSION NUMBER:         2001:850911  HCAPLUS
DOCUMENT NUMBER:          135:376709
TITLE:                    Protein matrix materials, devices and methods of
                          making and using thereof
INVENTOR(S):              Masters, David B.
PATENT ASSIGNEE(S):       Gel-Del Technologies, Inc., USA
SOURCE:                   PCT Int. Appl., 158 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     WO 2001087267      A1   20011122      WO 2001-US6502   20010228
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
             ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.:                    US 2000-185420   P  20000228
                                          US 2000-222762   P  20000803
AB   The present invention relates to protein matrix materials and devices and
     the methods of making and using protein matrix materials and devices.
     More specifically the present invention relates to protein matrix
     materials and devices that may be utilized for various medical
     applications including, but not limited to, drug delivery devices for the
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controlled release of pharmacol. active agents, encapsulated or coated stent devices, vessels, tubular grafts, vascular grafts, wound healing devices including protein matrix suture material and meshes, skin/bone/ **tissue** grafts, biocompatible electricity conducting matrixes, clear protein matrixes, protein matrix adhesion prevention barriers, cell scaffolding and other biocompatible protein matrix devices. Furthermore, the present invention relates to protein matrix materials and devices made by forming a film comprising one or more biodegradable protein materials, one or more biocompatible solvents and optionally one or more pharmacol. active agents. The film is then partially dried, rolled or otherwise shaped, and then compressed to form the desired protein matrix device.

IT **111-30-8**, **Glutaraldehyde**
RL: RCT (Reactant)
(crosslinking agent; protein matrix materials, devices and methods of making and using thereof)

IT **9054-89-1**, Superoxide dismutase
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(protein matrix materials, devices and methods of making and using thereof)

IT **67-68-5**, Dmso, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; protein matrix materials, devices and methods of making and using thereof)

REFERENCE COUNT: 1
REFERENCE(S): (1) Biegajaski; US 5700478 A 1997 HCAPLUS

L20 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:697421 HCAPLUS
DOCUMENT NUMBER: 135:315588
TITLE: Magnetosensitive microcarrier for culturing animal cells and its preparing process
INVENTOR(S): Wei, Cong; Lu, Xiuju; Ouyang, Fan
PATENT ASSIGNEE(S): Inst. of Chemical Metallurgy, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1289842	A	20010404	CN 1999-119643	19990923

AB The microcarrier with size of 120-300 .mu.m has core-shell structure. The magnetosensitive microsphere as core is prepd. by silylating 0.1-5 .mu.m magnetic powder with silane in 0.1-1% acetic acid for 10 min, drying at <100.degree., mixing with monomer, crosslinking agent, initiator, and 3-8% gelatin soln., polymg. at 80-90.degree. for 3-4 h, aging at 90-100.degree. for 2 h, washing with water, soaking in ethanol overnight, soaking in **chromic acid** or sulfonic acid for >3 min, and drying.
The microcarrier is prepd. by dissolving gelatin or glucose in phosphate buffer (pH 5.0-7.2) to obtain 5-20% gelatin soln., adding the magnetosensitive microsphere to the soln., stirring for 5 min, dispersing in Sp80 contg. toluene for >5 min, crosslinking with 10-50% **glutaraldehyde** soln. for 1-3 h, dispersing in phosphate buffer (pH 7.0-7.2), regulating with satd. H3BO3 soln. to pH 9-10, reducing with 0.5-2% NaBH4 for 10-24 h, washing with phosphate buffer, drying at

<70.degree., adding 1-3M NaOH soln., stirring for >1 h, washing, and drying at <70.degree. or storing in 70% ethanol. The magnetic powder is **gamma**.-Fe(OH)2, **.gamma.**-Fe2O3, or Fe3O4. The monomer is styrene, 4-methylstyrene, 3-methylstyrene, .alpha.-methylstyrene, or Me methacrylate. The crosslinking agent is divinylbenzene or triallyl isocyanurate. The initiator is azodiisobutyronitrile.

IT **7738-94-5**, **Chromic acid** (H2CrO4)
RL: NUU (Other use, unclassified); USES (Uses)
(magnetosensitive microcarrier for culturing animal cells and prepg. process)

IT **111-30-8**, **Glutaraldehyde**
RL: RCT (Reactant)
(magnetosensitive microcarrier for culturing animal cells and prepg. process)

L20 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:456909 HCAPLUS
DOCUMENT NUMBER: 133:79314
TITLE: Method for producing autogenous vaccines for treating chlamydial infections in mammals and humans
INVENTOR(S): Sonntag, Hans-Guenther; Nolte, Oliver; Weiss, Hannelore; Weiss, Hans-Erich
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 10 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000038712	A2	20000706	WO 1999-EP9993	19991216
WO 2000038712	A3	20001102		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19860438	C1	20000907	DE 1998-19860438	19981228
EP 1140160	A2	20011010	EP 1999-967946	19991216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: DE 1998-19860438 A 19981228
WO 1999-EP9993 W 19991216

AB The title vaccine is produced by heating **tissue** material contg. chlamydia to >50.degree., preferably 80-85.degree., for 1-5 h in the presence of protein-crosslinking agents, preferably formaldehyde or paraformaldehyde. Thus, fresh placenta from a chlamydia-infected aborted lamb was heated at 95.degree. for 60 min, minced, sieved, dild. 1:3 with sterile, pyrogen-free physiol. NaCl soln. contg. 0.3 vol.% formalin, heated at 80.degree. for 2 h, and incubated at 37.degree. for 24 h to verify sterility. Sheep inoculated 3-4 times with this vaccine showed a decrease in spontaneous abortion rate from 20-40% to <3%.

IT **111-30-8**, Pentanedial **7790-28-5**

RL: RCT (Reactant)
(protein-crosslinking agent; method for producing autogenous vaccines for treating chlamydial infections)

L20 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:746685 HCAPLUS
DOCUMENT NUMBER: 132:134306
TITLE: A solid-phase assay for quantitative analysis of sulfated glycosaminoglycans at the nanogram level. Application to **tissue** samples
AUTHOR(S): Vynios, D. H.; Faraos, A.; Spyracopoulou, G.; Aletras, A. J.; Tsiganos, C. P.
CORPORATE SOURCE: Department of Chemistry, Laboratory of Biochemistry, University of Patras, Patras, 261 10, Greece
SOURCE: J. Pharm. Biomed. Anal. (1999), 21(4), 859-865
CODEN: JPBADA; ISSN: 0731-7085
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A sensitive and accurate solid-phase methodol. for the quant. anal. of glycosaminoglycans is described. Chondroitin-4-sulfate (CSA) was labeled with biotin hydrazide after the reaction of its carboxyl groups with it in the presence of carbodiimide. Polystyrene plates modified with sequential reaction with **glutaraldehyde** (GH) and spermine to possess amino groups were used to immobilize electrostatically the biotin labeled CSA. Exogenously added sulfated glycosaminoglycans (GAGS) [variously sulfated chondroitin sulfates and heparan sulfate (HS)] were found to compete to this immobilization in a concn. dependent mode, within a concn. range from 10 up to 300 ng/mL. Glycosaminoglycan-derived oligosaccharides competed to a degree similar to that of intact mols. Hyaluronan (HA) and keratan sulfate (KS) did not compete the immobilization. The procedure was applied for the rapid and reproducible detn. of the sulfated glycosaminoglycans in proteinase digests of small **tissue** samples or cell cultures with high sensitivity and accuracy.
IT **111-30-8**, **Glutaraldehyde**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(a solid-phase assay for quant. anal. of sulfated glycosaminoglycans at nanogram level, application to **tissue** samples)
IT **9003-53-6**, Polystyrene
RL: DEV (Device component use); USES (Uses)
(a solid-phase assay for quant. anal. of sulfated glycosaminoglycans at nanogram level, application to **tissue** samples)
REFERENCE COUNT: 38
REFERENCE(S): (1) Bitter, T; Anal Biochem 1962, V4, P330 HCAPLUS
(2) Bjornsson, S; Anal Biochem 1998, V256, P229 HCAPLUS
(4) Dische, Z; J Biol Chem 1947, V167, P189 HCAPLUS
(6) Farndale, R; Connect Tissue Res 1982, V9, P247 HCAPLUS
(7) Fosang, A; Matrix 1990, V10, P306 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:265982 HCAPLUS
DOCUMENT NUMBER: 130:316630
TITLE: Medicinal carrier particle for **tissue** -specific application
INVENTOR(S): Mueller, Rainer; Lueck, Martin; Kreuter, Joerg
PATENT ASSIGNEE(S): DDS Drug Delivery Service Gesellschaft zur Foerderung

der Forschung in pharmazeutischer Technologie und Biopharmazie m.b.H., Germany
SOURCE: Ger. Offen., 18 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19745950	A1	19990422	DE 1997-19745950	19971017
WO 9920256	A2	19990429	WO 1998-EP6429	19981013
WO 9920256	A3	19990819		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9912272	A1	19990510	AU 1999-12272	19981013
EP 1023052	A2	20000802	EP 1998-955425	19981013

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

US 6288040	B1	20010911	US 2000-529600	20000621

PRIORITY APPLN. INFO.: DE 1997-19745950 A 19971017
WO 1998-EP6429 W 19981013

AB Drug carrier particles are provided for delivery of drugs across the blood-brain barrier to the central nervous system for treatment of central nervous disorders. The particles, in drug-loaded or drug-free form, bear on their surface .gtoreq.1 covalently bound or adsorbed recognition protein (e.g. an apolipoprotein) for receptors in the brain or blood-brain barrier, or the particle surface is modified (e.g. with an ethoxylated surfactant) so that a recognition protein is bound on contact with the particle. Thus, poly(Bu cyanoacrylate) nanoparticles loaded with the analgesic, dalargin, were surface modified with Tween 80 and incubated with apolipoprotein E. Administration of these nanoparticles i.v. to mice produced an analgesic effect, as shown in the tail-flick test.
IT **111-30-8**, Glutardialdehyde **7790-21-8**, Potassium **periodate** **7790-28-5**, Sodium **periodate**
RL: RCT (Reactant)
(drug carrier particle surface activation with; medicinal carrier particle for **tissue**-specific application to brain)

L20 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:555080 HCAPLUS
DOCUMENT NUMBER: 123:3802
TITLE: **Tissue** thromboplastin
AUTHOR(S): Baykeev, R. F.; Azancheev, N. M.; Chernov, A. N.; Filippov, A. V.; Dvorancev, S. N.
CORPORATE SOURCE: Kazan State Medical University, Kazan 420012, Tatarstan, Russia
SOURCE: J. Mol. Struct. (1995), 348, 305-8
CODEN: JMOSB4; ISSN: 0022-2860
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The dynamic structure of **tissue** thromboplastin (**tissue**

factor, TF) from the human brain has been studied. The phase state of lipids, the mobility of mol. segments in the structure of protein and lipid moieties have been detd. to permit us to elaborate the dynamic model of **tissue** thromboplastin from the human brain.

IT **67-68-5**, Dimexidum, biological studies **111-30-8**, **Glutaraldehyde**
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(**tissue** thromboplastin structure response to)

L20 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:676202 HCAPLUS
DOCUMENT NUMBER: 121:276202
TITLE: Macromolecular microparticles, methods of production, and diagnostic, therapeutic, and other uses thereof
INVENTOR(S): Woiszwillo, James E.
PATENT ASSIGNEE(S): Middlesex Sciences, Inc., USA
SOURCE: PCT Int. Appl., 74 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9420856	A1	19940915	WO 1994-US2316	19940304
W: AU, CA, HU, JP, KR, PL				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2157793	AA	19940915	CA 1994-2157793	19940304
AU 9463585	A1	19940926	AU 1994-63585	19940304
EP 688429	A1	19951227	EP 1994-910826	19940304
EP 688429	B1	19980211		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08507806	T2	19960820	JP 1994-520171	19940304
US 5578709	A	19961126	US 1994-206456	19940304
EP 809110	A1	19971126	EP 1997-112821	19940304
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
AT 163230	E	19980215	AT 1994-910826	19940304
ES 2113094	T3	19980416	ES 1994-910826	19940304

PRIORITY APPLN. INFO.:
US 1993-28237 A 19930309
EP 1994-910826 A3 19940304
WO 1994-US2316 W 19940304

AB A macromol. microparticle compn. is formed by dehydrating an aq. macromol. soln. and crosslinking the dehydrated macromols. with a crosslinking agent while in a liq. phase or with **heat**. Preferably, the dehydrating agent is a polymer mixt. of polyvinylpyrrolidone and polyethylene glycol, the crosslinking reagent is **glutaraldehyde**, and the macromol. is a protein, most preferably an Ig. Methods of use for research, diagnostics and therapeutics are also provided. Prepn. of e.g. tetanus toxoid microparticles and immunization of mice with the tetanus toxoid microparticles is described.

IT **111-30-8**, **Glutaraldehyde**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(crosslinking agent; macromol. microparticles, methods of prodn., and diagnostic, therapeutic, and other uses thereof)

IT **9003-99-0D**, Peroxidase, IgG conjugates
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(macromol. microparticles, methods of prodn., and diagnostic, therapeutic, and other uses thereof)

L20 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:533233 HCAPLUS
DOCUMENT NUMBER: 119:133233
TITLE: The Influence of chemical structure on the extent and sites of carcinogenesis for 522 rodent carcinogens and 55 different human carcinogen exposures
AUTHOR(S): Ashby, J.; Paton, D.
CORPORATE SOURCE: Cent. Toxicol. Lab., ICI, Macclesfield/Ches., SK10 4TJ, UK
SOURCE: Mutat. Res. (1993), 286(1), 3-74
CODEN: MUREAV; ISSN: 0027-5107
DOCUMENT TYPE: Journal
LANGUAGE: English

AB L. S. Gold et al. (1991) tabulated the results of rodent bioassays on 522 chems. and analyzed the data. The present study complements those analyses by providing a perspective from the viewpoint of the chem. structure of the carcinogens. The chem. structure of each of the carcinogens is displayed and the Gold database is represented with the test agents as the primary variable. The carcinogens are gathered into 6 chem. classes and each chem. is assessed for structural alerts to DNA reactivity. The database is then analyzed using an integration of the following parameters: bioassay in rat, mouse or both; structural alert status; chem. class; sites and multiplicity of carcinogenesis, and trans-species carcinogenicity. A series of figures is presented that enables rapid acquaintance with what represents the core database of rodent carcinogenicity. The several analyses presented combine in endorsing the reality of two broad classes of rodent carcinogen, presumed DNA-reactive and others (putative genotoxic and non-genotoxic carcinogens, but semantics have been largely avoided). H. M. Vainio et al. (1991) and his colleagues have tabulated 55 situations in which humans have succumbed to chem. induced cancer and have listed the **tissues** affected. This database of human carcinogens has been analyzed in the present study as done for the rodent carcinogen database, and comparisons made between the two. The predominance of putative genotoxic carcinogens in the human database was confirmed, as was the reality of putative non-genotoxic carcinogenicity in humans. It is concluded that putative genotoxic rodent carcinogenesis can be correlated both with chem. structure and the extent and nature of the induced effect, and that it is of clear relevance to humans. In contrast, it is concluded that putative non-genotoxic rodent carcinogenesis is more closely related to the test species than to the test chem., and that it is essentially unpredictable in the absence of mechanistic models.

IT **91-93-0 120-62-7**, Piperonyl **sulfoxide**
122-60-1 7722-84-1, Hydrogen **peroxide**,
biological studies
RL: ADV (Adverse effect, including toxicity); PRP (Properties); BIOL (Biological study)
(neoplasm from, of **tissues**, in lab. animals, structure role in, human in relation to)

L20 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:490604 HCAPLUS
DOCUMENT NUMBER: 119:90604
TITLE: Freeze-substitution fixation for immunohistochemistry at the light microscopic level: effects of solvent and chemical fixatives

AUTHOR(S): Yamashita, Shuji; Yasuda, Kenjiro
CORPORATE SOURCE: Keio J. Coll. Nurs., Tokyo, 160, Japan
SOURCE: Acta Histochem. Cytochem. (1992), 25(6), 641-50
CODEN: ACHCBO; ISSN: 0044-5991
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The suitability of the freeze-substitution and paraffin embedding technique for the immunolocalization of membrane-bound and sol. antigens in the rat at the light microscopic level was investigated. Frozen **tissues** were substituted at -80.degree. in methanol- or acetone-contg. chem. fixatives, i.e., formaldehyde, **glutaraldehyde**, acrolein, hexamethylene **diisocyanate** (HMD), di-Et malonimide (DEM) and 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide (water-sol. carbodiimide, WSC). The following antigens were localized using monoclonal antibodies and antisera: (A) membrane-bound antigens; .**gamma**.-glutamyl transpeptidase (.**gamma**.-GTP), common antigen of secretory granule membrane (SG 170 antigen) and Golgi-assocd. antigen (GAA 108); and (B) sol. antigens; branched-chain amino acid transferase type I isoenzyme (BAT), glutamate dehydrogenase (GDH), pancreatic amylase, proliferating cell nuclear antigen (PCNA), rat serum albumin and IgG. (1) The freeze-substitution technique maintained an excellent **tissue** structure and conservation of antigenicity. By using this method, BAT was localized in mitochondria in liver cells, and .**gamma**.-GTP was demonstrated in the secretory granule membrane of pancreatic acinar cells, although conventional fixation methods provided neg. reaction. (2) In general, the membrane-bound antigens were localized in detail with a strong immunoreaction in the **tissues** substituted in solvent alone; however, for the localization of sol. antigens, **tissues** substituted in solvents contg. chem. fixatives revealed a strong and precise antigen localization. (3) Formaldehyde and **glutaraldehyde** proved to be better fixatives concerning the conservation of structure and antigenicity than the other chem. reagents. (4) The choice of substitution solvent was important for the immunohistochem. of some antigens. For example, methanol was suitable for PCNA, and substitution in acetone was essential for .**gamma**.-GTP using one of the monoclonal antibodies to .**gamma**.-GTP.

IT **111-30-8**, **Glutaraldehyde** **822-06-0**, Hexamethylene **diisocyanate**
RL: BIOL (Biological study)
(freeze-substitution fixation for immunolocalization of membrane-bound and sol. antigens in relation to)

L20 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:441497 HCAPLUS
DOCUMENT NUMBER: 117:41497
TITLE: DNA-peroxidase probing of some plant and animal virus infections
AUTHOR(S): Drygin, Yu. F.; Buzmakov, A. V.; Teterina, N. L.; Morozov, S. Yu.
CORPORATE SOURCE: A. N. Belozerskii Lab. Mol. Biol. Bioorg. Chem., M. V. Lomonosov Moscow State Univ., Moscow, 119899, Russia
SOURCE: Mol. Biol. (Moscow) (1992), 26(1), 59-69
CODEN: MOBIBO; ISSN: 0026-8984
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB DNA-peroxidase probes were synthesized for the detection of .lambda. phage DNA (model system), polio, potato X (PVX) and M (PVM) tobacco mosaic (TMV) viral RNAs by spot hybridization onto nitrocellulose membranes. The cDNAs (300-1400 bases) complementary to the viral RNAs were cloned in M13 phage

DNA or plasmid pTZ19. Each step of the probe construction and the diagnostic procedure were thoroughly examd. Peroxidase activity obsd. with non-toxic stain (NTS) was 3-5 fold more sensitive than were .alpha.-Cl-naphthol or bisanisidine. Horseradish peroxidase (HRP) became much more stable to **heat** in dild. samples and was 2-3 fold more active after coupling with a polyethylenimine (PEI) spacer. Also, sodium borohydride redn. of the cDNA and PEI-HRP adduct crosslinked by **glutaraldehyde** resulted in the stabilization of the probes. Target nucleic acids or diagnostic samples were efficiently fixed onto nitrocellulose membranes by a short-time **UV** irradn. Viral detection in cellular exts. with prepd. probes takes 4-5 h with 100-200 ng/mL of specific nucleotide sequence. Up to 20 pg (<10-17M) of the purified viral nucleic acids or 30-50 pg in the total fraction of the cellular nucleic acids isolated from the infected cells were identified with the probes. A 500-10,000-fold dild. lysate of the HeLa cells infected with poliovirus (PV1) and both crude exts. of potato tuber of potato and tobacco leaf **tissues** infected with PVX, PVM or TMV displayed specific signals with the resp. DNA-HRP probes.

IT **9003-99-0**, Peroxidase
RL: USES (Uses)
(horseradish, DNA probes contg., for plant and animal DNA and RNA virus detection by spot hybridization, construction of)

L20 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:577874 HCAPLUS
DOCUMENT NUMBER: 115:177874
TITLE: Exact ultrastructural localization of glutathione peroxidase in normal rat hepatocytes: advantages of microwave fixation
AUTHOR(S): Utsunomiya, Hirotoshi; Komatsu, Noriyuki; Yoshimura, Shinichi; Tsutsumi, Yutaka; Watanabe, Keiichi
CORPORATE SOURCE: Sch. Med., Tokai Univ., Isehara, Japan
SOURCE: J. Histochem. Cytochem. (1991), 39(9), 1167-74
CODEN: JHCYAS; ISSN: 0022-1554
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glutathione peroxidase (GSH-PO), a highly sol., selenium-dependent enzyme metabolizing lipid **peroxides**, is allegedly distributed in both the cytosol and mitochondria. With the pre-embedding method of immunoelectron microscopy for GSH-PO employing conventional immersion-fixation, the nucleic of rat hepatocytes stain pos., whereas mitochondria are neg. Such observations are inconsistent with the results of biochem. and immunoblot analyses using isolated subcellular fractions. In the present study, the combination of microwave irradn. and fixation in 4% paraformaldehyde (PFA), with or without 0.1% **glutaraldehyde** (GA), was used to enhance the accuracy of ultrastructural localization of GSH-PO in rat liver. A small block of liver was **irradiated** by microwave for 10 s in cold cacodylate-buffered 4% PFA contg. 0.1% GA. After further immersion of the **tissue** in 4% PFA at 4.degree. for 1-6 h, the std. procedure for pre-embedding immunoelectron microscopy was employed. Partial inhibition was obsd. of artifactual diffusion of cytosolic GSH-PO into the nuclei; consistent GSH-PO localization in mitochondria was seen. Dual localization of this enzyme in the cytosol and mitochondria of normal rat hepatocytes was thus confirmed.

L20 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:422201 HCAPLUS
DOCUMENT NUMBER: 115:22201
TITLE: Superoxide dismutase-catalase conjugates as

tissue-specific therapeutics
INVENTOR(S): Poznansky, Mark J.; Mao, Guo Dong
PATENT ASSIGNEE(S): University of Alberta, Can.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9103548	A1	19910321	WO 1990-CA279	19900830
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
CA 2065430	AA	19910301	CA 1990-2065430	19900830
AU 9062854	A1	19910408	AU 1990-62854	19900830
US 5336493	A	19940809	US 1992-836274	19920302
PRIORITY APPLN. INFO.:			GB 1989-19661	19890831
			WO 1990-CA279	19900830

AB A novel multicomponent conjugate having superoxide dismutase (SOD), catalase, and optionally albumin and a targeting agent such as antibody is provided. A pharmaceutical compn. contg. such conjugate can be used for **tissue**-specific scavenging of superoxide and hydroxyl radicals with higher efficiency than SOD or catalase alone. The half-life of the SOD-catalase conjugates was 300 min in rats. Scavenging of the free radicals using the conjugates was also demonstrated in vitro and in the rat heart model of ischemia-reperfusion.

IT **9054-89-1DP**, Superoxide dismutase, conjugates with catalase
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for superoxide and hydroxyl free radical scavenging)

IT **111-30-8**, **Glutaraldehyde**
RL: BIOL (Biological study)
(superoxide dismutase-catalase conjugate prepn. with)

L20 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1989:131694 HCAPLUS
DOCUMENT NUMBER: 110:131694
TITLE: Use of light microscopic immunotechniques in selecting preparation conditions and immunoprobes for ultrastructural immunolabeling of lactoferrin
AUTHOR(S): Mutasa, H. C. F.; Pearson, E. C.
CORPORATE SOURCE: Dep. Haematol. Med., Univ. Cambridge, Cambridge, CB2 2QL, UK
SOURCE: Histochem. J. (1988), 20(10), 558-66
CODEN: HISJAE; ISSN: 0018-2214
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Successful postembedding immunol. labeling for electron microscopy is sometimes difficult to achieve. Light microscopy can be used (1) to detect quickly processing steps that have an adverse effect on the **tissue** antigenicity and (2) to check the specific reactivity of the immunogold detecting system normally employed at the ultrastructural level. The individual steps of fixation, dehydration, and embedding were tested for their ability to preserve antigenicity by light microscopic peroxidase-antiperoxidase cytochem. Steps that severely reduced antigenicity were replaced by less destructive alternatives compatible with reasonable ultrastructural preservation. The specific reactivity of the immunogold detecting system was assessed by using the light

microscopic immunogold Ag staining method. The antigen lactoferrin was studied in human neutrophilic granulocytes from patients with chronic myeloid leukemia. Strong immunolabeling of specific granules and good ultrastructural preservation were obtained by using routine methods at room temp. For lactoferrin, the method of choice was to fix in 3% paraformaldehyde/0.1% **glutaraldehyde** followed by 1% OsO4, dehydrate in 70% EtOH, embed in LR White resin, and polymerize at 40.degree. for 40 h. These conditions may not be suitable for all antigens, and for each new antigen a similar study should be carried out.

IT **111-30-8**, Pentanedial **15056-35-6**, **Periodate**
RL: BIOL (Biological study)
(lactoferrin antigenicity response to, ultrastructure in relation to)

L20 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:535012 HCAPLUS
DOCUMENT NUMBER: 109:135012
TITLE: Crosslinked peritoneal **tissues** as novel biomaterials for medical devices and process for their manufacture
INVENTOR(S): Lauren, Mark D.
PATENT ASSIGNEE(S): Australia
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4755593	A	19880705	US 1986-888717	19860724
AU 8660596	A1	19870129	AU 1986-60596	19850724
PRIORITY APPLN. INFO.:			AU 1985-1616	19850724

AB A biomaterial, suitable for use in medical devices, comprises peritoneum **tissue** which has been chem. treated to crosslink the collagen in the **tissue**, rendering the **tissue** more stable, less antigenic, and sterile. Peritoneum **tissue** was dissected from the abdominal cavity of calves, the **tissue** cleaned in phosphate buffered saline, pinned to a polyethylene surface, and exposed to 1% **glutaraldehyde** in phosphate buffered saline for 24 h at room temp., followed by 2% H2O2 for 30 min, and stored in 50% aq. EtOH. The treated **tissue** had shrinkage temp. 83.5.degree., vs. 66.5 and 67.5.degree. for untreated **tissue**.

IT **111-30-8**, **Glutaraldehyde 28605-81-4**, Dicyclohexylmethanediisocyanate
RL: BIOL (Biological study)
(tanning agent for peritoneum **tissue**, in prepn. of biomaterial)

L20 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:561746 HCAPLUS
DOCUMENT NUMBER: 107:161746
TITLE: Treatment of collagenous **tissue** for use as xenograft bioprostheses
INVENTOR(S): Milthorpe, Bruce; Schindhelm, Klaus
PATENT ASSIGNEE(S): Domedica Pty. Ltd., Australia
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8702880	A1	19870521	WO 1986-AU346	19861113
W: AU, JP, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8666261	A1	19870602	AU 1986-66261	19861113
AU 586718	B2	19890720		
EP 245383	A1	19871119	EP 1986-906721	19861113
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 63501344	T2	19880526	JP 1986-506010	19861113

PRIORITY APPLN. INFO.: AU 1985-3384 19851113
AU 1984-33 19851113
WO 1986-AU346 19861113

AB Collagen-based materials are pretreated with a reagent capable of reacting with or removing the primary amines of the amino acid side chains and then reacted with a crosslinking agent to link some of the remaining amino acid side chains together to prep. implantable prosthetics. Kangaroo tail tendons stored in cold sterile saline soln. were removed and placed in a bicarbonate buffer contg. fluorescein isothiocyanate for 3 day at 4.degree., followed by fixing them in buffered 2% **glutaraldehyde** for 3 day at room temp. The tendons were aseptically transferred to final packaging prior to terminal sterilization by .**gamma**.-**radiation**. The prepd. xenografts were applicable in the treatment of sports injuries of the knee particularly in cruciate ligament repair.

IT **111-30-8**, **Glutaraldehyde 9047-50-1**, Dialdehyde starch
RL: RCT (Reactant)
(crosslinking by, of modified collagens in xenograft prepn.)

L20 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:83050 HCAPLUS
DOCUMENT NUMBER: 106:83050
TITLE: Cell culture growth enhancement by modified collagens
INVENTOR(S): Yoshizato, Katsutoshi; Taira, Toshio; Miyata, Teruo
PATENT ASSIGNEE(S): Koken Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61207340	A2	19860913	JP 1985-48350	19850313
JP 05086185	B4	19931210		

AB Collagens modified by treatment with **UV**, .alpha.-ray, ethylene oxide, hexamethylene **diisocyanate**, or glutaryldehyde markedly increase the cell multiplication rate in animal cell culture. Thus, 0.02% sterilized pyrogen-free collagen of calf skin origin was aseptically applied on the surface of a cell culture dish, air-dried, and exposed to 0.5 Mrad .**gamma**.-ray. When the treated dish was used for cultivation of cell lines of human skin fibroblast, rat liver, and rat epiderm, a marked increase in cell multiplication and growth was obsd.

IT **111-30-8**, **Glutaraldehyde**

RL: BIOL (Biological study)
(collagen modification by, as animal cell culture growth enhancer)
IT **822-06-0**, Hexamethylenediisocyanate
RL: BIOL (Biological study)
(collagen modified by, for cell culture enhancement)

L20 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1985:450613 HCAPLUS
DOCUMENT NUMBER: 103:50613
TITLE: Immunoelectron microscopic localization of .alpha.-actinin on Lowicryl-embedded thin-sectioned **tissues**
AUTHOR(S): Lemanski, Larry F.; Paulson, Daniel J.; Hill, Craig S.; Davis, Lynn A.; Riles, Linda C.; Lim, Soo Siang
CORPORATE SOURCE: Upstate Med. Cent., State Univ. New York, Syracuse, NY, USA
SOURCE: J. Histochem. Cytochem. (1985), 33(6), 515-22
CODEN: JHCYAS; ISSN: 0022-1554
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A procedure has been developed for the immunoelectron microscopic localization of intracellular antigens on thin-sectioned **tissues**. The **tissues** were fixed in a **periodate**-lysine-paraformaldehyde soln. or a formaldehyde-**glutaraldehyde** combination and embedded in the acrylate-methacrylate mixt., Lowicryl K4M (Polaron), which was polymd. under **UV** irradn. at -35.degree.. Thin sections were mounted on gold grids, immunostained using an indirect method with ferritin-labeled antibodies, and, optionally, counterstained with osmium tetroxide and/or lead citrate and uranyl acetate. The procedure provided good morphol. preservation of the cell architecture in adult and embryonic heart, and skeletal and smooth muscle **tissue**, as well as nonmuscle cells. At the same time it retained the antigenicities of several contractile proteins, including myosin, tropomyosin, actin, and .alpha.-actinin. The method has advantages over en bloc staining techniques in that the problem of antibody penetration into the cells is eliminated and careful controls can be performed on adjacent sections. This technique will be useful for localizing, at the ultrastructural level, contractile and other selected proteins in a variety of muscle and nonmuscle cells. Details of the new protocol and a description of the results of using antibody against the contractile protein, .alpha.-actinin, are given.

L20 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:3079 HCAPLUS
DOCUMENT NUMBER: 98:3079
TITLE: Platelet interaction with the extracellular matrix produced by cultured endothelial cells: a model to study the thrombogenicity of isolated subendothelial basal lamina
AUTHOR(S): Vlodavsky, I.; Eldor, A.; HyAm, E.; Atzmon, R.; Fuks, Z.
CORPORATE SOURCE: Dep. Radiat., Hadassah Univ. Hosp., Jerusalem, 91120, Israel
SOURCE: Thromb. Res. (1982), 28(2), 179-91
CODEN: THBRAA; ISSN: 0049-3848
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cultured bovine endothelial cells produce an extensive underlying extracellular matrix (ECM) which closely resemble the vascular

subendothelial basal lamina in its organization and chem. compn. This naturally produced ECM was used to study the interaction of platelets with the subendothelium when exposed or covered with vascular endothelial cells. Incubation of platelet-rich plasma with the ECM induced a rapid and massive platelet adherence, aggregation, thromboxane formation, and release reaction. These were demonstrated using phase and SEM, 111In- or [14C]serotonin-labeled platelets, and an RIA for TXB2. In contrast to the ECM no platelet activation was induced either by uncoated plastic dishes or ECM covered with a confluent endothelial cell monolayer. Aspirinized platelets failed to undergo aggregation and degranulation, when incubated with the ECM. Culture dishes coated with characteristic constituents of the basal lamina such as collagen type IV and type V or fibronectin induced a much lower platelet reactivity as compared with ECM-coated dishes. Digestion of ECM components (collagen, fibronectin, hyaluronic acid, and chondroitin sulfate) by specific enzymes was not assocd. with a substantial decrease in its platelet reactivity. Furthermore, exposure of ECM to SDS or Na **periodate**, or freezing and thawing did not decrease its biol. activity. In contrast, platelet activation was completely abolished following **heat** denaturation or **glutaraldehyde** fixation of the ECM. The availability of a naturally produced ECM provides an appropriate model to study the interaction of platelets with the subendothelium in a controlled system which is isolated from other components of the vessel wall.

L20 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1980:91814 HCAPLUS
DOCUMENT NUMBER: 92:91814
TITLE: Cultured sympathetic neurons: effects of cell-derived and synthetic substrata on survival and development
AUTHOR(S): Hawrot, Edward
CORPORATE SOURCE: Dep. Neurobiol., Harvard Med. Sch., Boston, MA, 02115, USA
SOURCE: Dev. Biol. (1980), 74(1), 136-51
CODEN: DEBIAO; ISSN: 0012-1606
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Compared to dried collagen films, both 3-dimensional hydrated collagen gels and surfaces coated with basic polymers provided a substratum highly adherent for developing rat sympathetic neurons. Polylysine and polyornithine were suitable for long-term culture when covalently linked with **glutaraldehyde** to an underlying layer of dried gelatin. Dissocd. neurons also attached strongly to a substratum of killed nonneuronal cells fixed by paraformaldehyde, **heat**, EtOH, or TCA. In addn., an extracellular, substrate-assocd. material apparently produced by nonneuronal cells (rat cardiac myocytes and assocd. fibroblasts) promoted the long-term adhesion of growing neurites. The adhesive property of this microexudate was sensitive to trypsin, **periodate**, and alkali, but resistant to hyaluoronidase, chondroitinase, 8M urea, and 0.5 HOAc. The choice and development of neurotransmitter function were unaffected by the various substrate tested, except that nonneuronal cells fixed with paraformaldehyde caused a significant induction of cholinergic properties similar to that seen with nonneuronal-conditioned medium.

L20 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1977:417814 HCAPLUS
DOCUMENT NUMBER: 87:17814
TITLE: New techniques for cytochemical localization of exogenous peroxidase activity with 2,7-fluorenediamine

and 2,5-fluorenediamine as hydrogen donors
AUTHOR(S): Ohkawa, Kinichi; Antakly, Tony William; Tanaka, Satoshi; Sugai, Naonori
CORPORATE SOURCE: Chest Dis. Res. Inst., Kyoto Univ., Kyoto, Japan
SOURCE: Ann. Histochim. (1976), 21(4), 353-63
CODEN: ANHIAG
DOCUMENT TYPE: Journal
LANGUAGE: English

AB I.v. injected horseradish peroxidase activity was cytochem. detected with 2,7-fluorenediamine (I) and 2,5-fluorenediamine (II) as H-donors. Forty min following i.v. injection of horseradish peroxidase, the liver and kidney were removed. Small pieces of **tissues** were fixed immediately for 7-10 h in chilled phosphate-buffered 1.25% **glutaraldehyde** soln. (pH 7.2). In liver, Kupffer cells and sinusoidal endothelial cells showed staining. In kidney, polymorphonuclear leukocytes and urinary epithelial cells showed staining. Staining was of droplet nature in the light microscope and of vesicular pattern in the electron microscope. Erythrocytes showed weak or no staining. In **heat**-denatured sections of livers and kidneys, only erythrocytes showed weak staining. Incubation media devoid of either H-donor, I or II, or H-acceptor, H2O2, gave rise to no pos. staining. In sections of control animals injected only with physiol. saline soln., erythrocytes, Kupffer cells, and polymorphonuclear leukocytes showed staining; sinusoidal endothelial cells and urinary tubular epithelial cells showed no staining.

IT **9003-99-0**
RL: BIOL (Biological study)
(histochem. localization of exogenous, fluoroenediamine in)

L20 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1976:118989 HCAPLUS
DOCUMENT NUMBER: 84:118989
TITLE: Cytochemical localization of endogenous peroxidase activity in renal medullary collecting tubules and papillary mucosa of the rat
AUTHOR(S): Cavallo, Tito
CORPORATE SOURCE: Sch. Med., Univ. Pittsburgh, Pittsburgh, Pa., USA
SOURCE: Lab. Invest. (1976), 34(3), 223-8
CODEN: LAINAW
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Endogenous peroxidase activity, as demonstrated by the technique of R.C. Graham, Jr., and M.J. Karnovsky (1966), was identified in medullary collecting tubule cells and in the cells of renal papillary mucosa of the rat. Peroxidase reactive sites were obsd. in the perinuclear cisterna, endoplasmic reticulum, and cytoplasmic vesicles of such cells. The specificity of the peroxidase reaction was verified by means of chem. inhibitors (NaN3, KCN, and aminotriazole), denaturation of the enzyme by **heat**, exclusion or prior oxidn. of substrate (diaminobenzidine), and high concn. of H2O2. Prolonged fixation (**glutaraldehyde**) improved cellular detail but diminished or abolished the peroxidase staining. When exogenous H2O2 was excluded from the incubating medium, a pos. reaction was obtained, suggesting that H2O2 can be endogenously generated. This observation was confirmed by degrdn. of **tissue** -formed H2O2 with beef liver catalase and by blocking endogenous generation of H2O2 with sodium pyruvate. These studies indicate that the reaction product is the result of an enzymic reaction and that the enzyme is most likely a peroxidase. A similar staining reaction was not obsd. in other tubule segments, including cortical collecting tubules. The

significance of this peroxidase activity is discussed in relation to the cellular localization and biosynthesis of renal medullary prostaglandins.

IT **9003-99-0**
RL: BIOL (Biological study)
(of kidney medullary collecting tubules and papillary mucosa)

L20 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1973:416729 HCAPLUS
DOCUMENT NUMBER: 79:16729
TITLE: Effect of various preservation methods on the immunogenicity and antigenic composition of xenogenic valve **tissues** of the heart
AUTHOR(S): Frolova, M. A.; Barbarash, L. S.; Gudkova, R. G.; Karpinskaya, V. M.
CORPORATE SOURCE: A. N. Bakulev Inst. Cardiovasc. Surg., Moscow, USSR
SOURCE: Byull. Eksp. Biol. Med. (1973), 75(3), 83-6
CODEN: BEBMAE
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Swine aortic valves were submitted to the action of different reagents capable of altering their antigenic compn. and immunogenicity. Exts. from valves treated with either .**gamma**.-rays or 4% formaldehyde had almost the same immunogenicity and produced the same no. of precipitin lines in agar gel diffusion tests as an ext. from fresh valves. Conditioning valve **tissues** with Na metaperiodate and **glutaraldehyde** depressed both the immunogenic and antigenic properties of xenogenic valves.

IT **111-30-8 7790-28-5**
RL: BIOL (Biological study)
(heart valve antigen depression by)

L20 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1966:70069 HCAPLUS
DOCUMENT NUMBER: 64:70069
ORIGINAL REFERENCE NO.: 64:13159d-g
TITLE: Mechanism of a histochemical reaction differentiating between adrenaline- and noradrenaline-storing cells in the electron microscope
AUTHOR(S): Coupland, R. E.; Hopwood, D.
CORPORATE SOURCE: Queen's Coll., Dundee, UK
SOURCE: Nature (1966), 209(5023), 590-1
DOCUMENT TYPE: Journal
LANGUAGE: English
AB cf. ibid. 201(4925), 1240-2(1964). Aq. solns. of noradrenaline (I) react with **glutaraldehyde** (II) with the production of a dense ppt. The kinetics and product of the reaction were examd. by **uv** and visible light and by ir spectroscopy and paper chromatography using various solvent systems; m.p. detns. were carried out and recrystn. attempted. All findings are in favor of the product being a polymer of II and I combined in a mol. ratio of 1:1. To assess the importance of II in this reaction as it relates to electron microscopy, adrenal glands were variously fixed: with Caufield's buffered (pH 7.4) osmium tetroxide-sucrose fixation, chromaffin cells contained large nos. of electron-dense chromaffin granules which exhibited a peripheral limiting membrane; using 4% II (pH 7.4) fixation only, 2 distinct types of chromaffin cells could be identified. Electron-dense granules, usually of homogeneous nature, represent the I-storing elements while the adrenaline-storing cells contain granules which have a washed-out appearance and show internal granularity. Four percent buffered II fixation followed by

post-fixation in buffered 1% osmium tetroxide or 3% K2Cr2O7 showed 2 distinct types of granule visible in unstained sections and in sections stained with **permanganate** or briefly with Pb citrate. One type was intensely electron dense and homogeneous, the other had a washed-out appearance and showed internal granularity. The former was found in the cells giving a pos. color reaction for the I-II complex, the latter in others presumed to store adrenaline. In **tissues** post-fixed in osmium tetroxide, both types of granules showed a peripheral limiting membrane. The fate of adrenaline, which is apparently unaffected by II, was investigated. The majority of adrenaline is lost during II fixation and dehydration. This fact, together with the production of the I-II polymer accounts for the differential staining reaction. The staining reaction of the II-fixed I-storing cells can be obtained many months after **tissue** fixation, provided the cells are stored in water, saline or II; a delayed Cr, osmium, or iodate reaction may be performed on frozen sections of this material. Block impregnation of II-fixed adrenal with osmium tetroxide or K2Cr2O7 prior to embedding in paraffin results in a good demonstration of the I islands, and this technique or the use of frozen sections is the method of choice for light microscopy. The fact that **tissues** are fixed initially in II is considered to be the most essential part of this technique.